lectureStudio – Tutorial 1: Survey
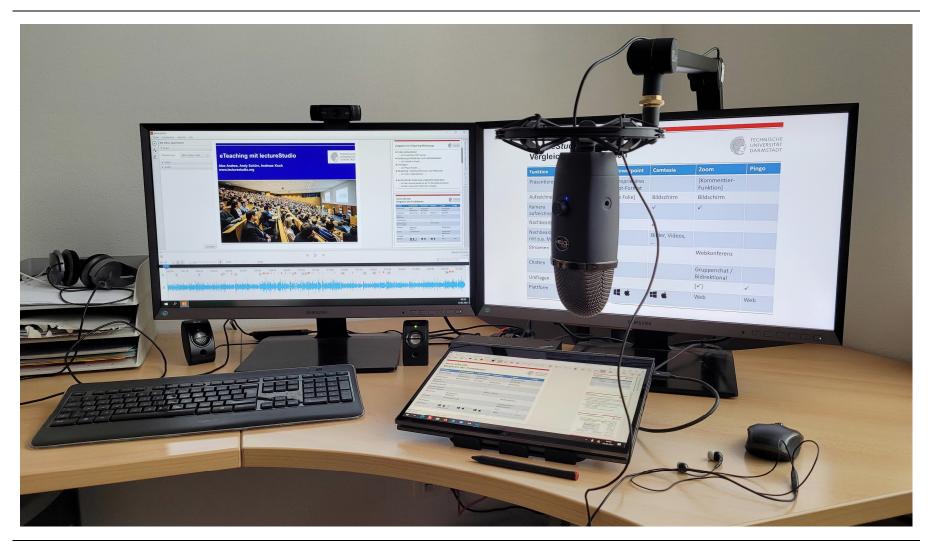
Alex Andres, Andreas Koch, *Andy Schürr*
Technical University of Darmstadt
https://www.lecturestudio.org
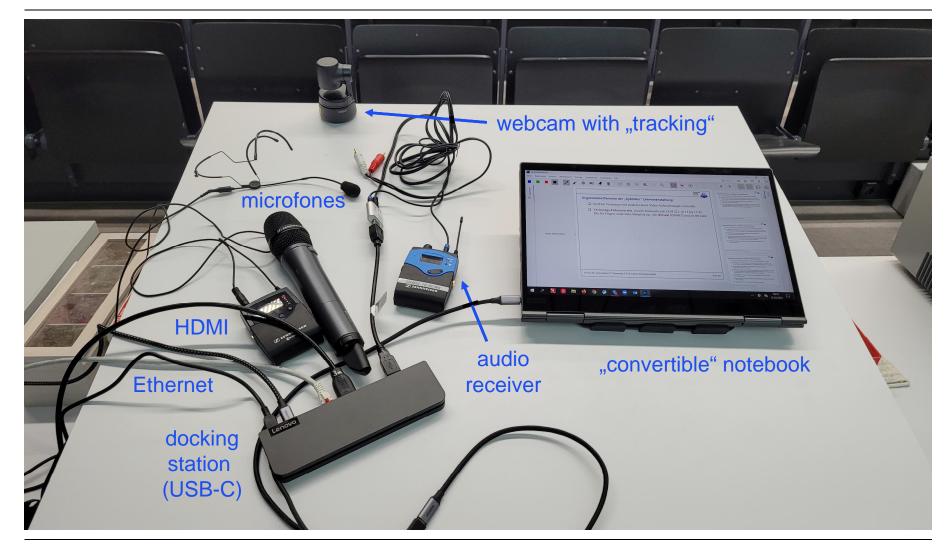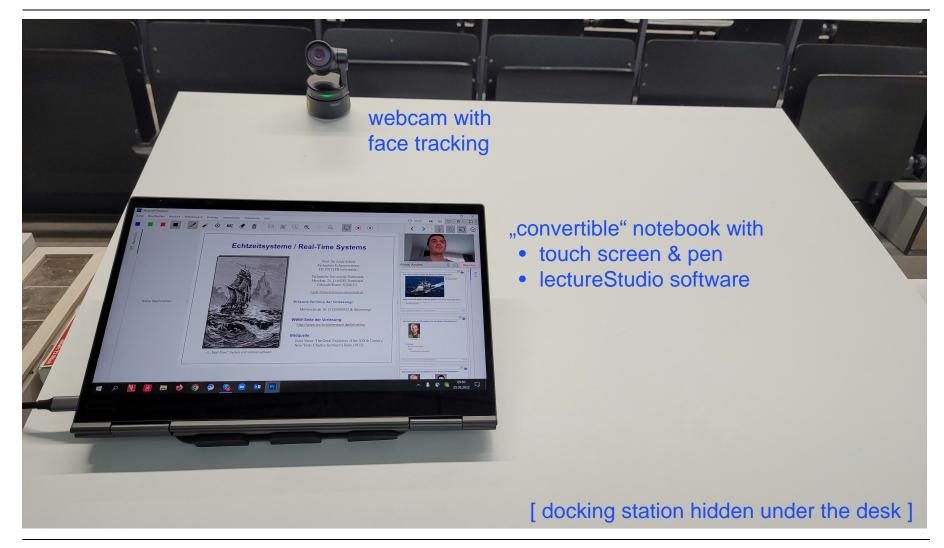
eTeaching Work Place in 2020, 2021, …

Hybrid Setting (Lecture Hall & Streaming)

webcam with „tracking"

microfones

audio receiver

„convertible" notebook

HDMI

Ethernet

docking station (USB-C)

Hybrid Setting (Lecture Hall & Streaming)

webcam with
face tracking

„convertible" notebook with
- touch screen & pen
- lectureStudio software

[docking station hidden under the desk]

Categories of eTeaching Tools

- **presentation tools (with integrated whiteboard?)**
  - PowerPoint, pdfpc, …

- **presentation recording and postprocessing tools**
  - Panopto, Camtasia, Snagit, …

- **streaming / video conference tools**
  - BigBlueButton, Zoom, …

- **interactive poll/quiz execution tools**
  - Pingo, Moodle, …

- **interactive group chat tools**
  - Element, Zoom, …

- **…**

Comparison of eTeaching Tools

Funktion	lectureStudio	pdfpc	BigBlueButton	Panopto	Zoom
Presentation	PDF + annotat., screenshares	PDF doc. + annotations	screenshares, PDF/… → SVG	screenshares	screenshares + annotations
Whiteboard	✔	(✔)	✔	✘	✔
Recording	PDF + events + audio + screens	✘	screenshares, PDF/… → SVG	screenshares, (video-based)	screenshares, (video-based)
Postprocessing	✔!!!	✘	✘	✔ Online	✘
Streaming	PDF + events, screenshares	✘	screenshare, PDF/… → SVG	screenshare (video-based)	screenshare (video-based)
Chat	✔	✘	✔	✘	✔
Quiz / Poll	✔	✘	✔	(video-based)	✔
Open Source	✔	✔	✔	✘	✘
Plattform	🪟 🍎 🐧 web client	🪟 🍎 🐧	🪟 🍎	🪟 🍎	web client

Starting Point: PDF Document (or ppt)

PPspliT
(Powerpoint plugin)
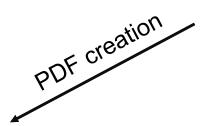
Powerpoint presentation
(with animations)

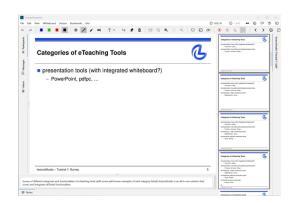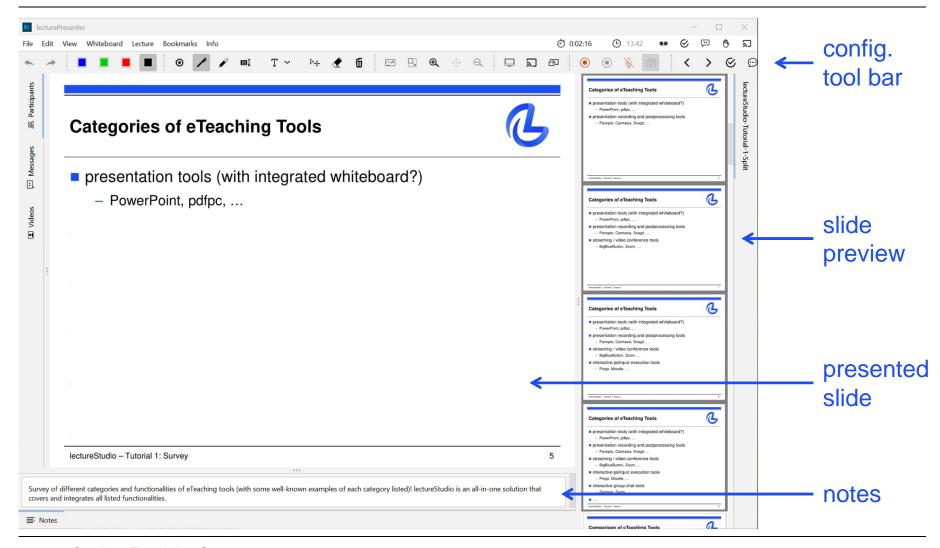Powerpoint presentation
(with unfolded animations)

PDF creation
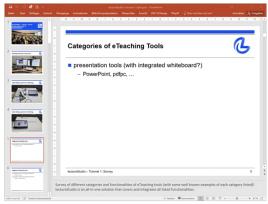
PDF presentation
(with embedded comments)

open

presentation, recording, streaming
(with lectureStudio Presenter)
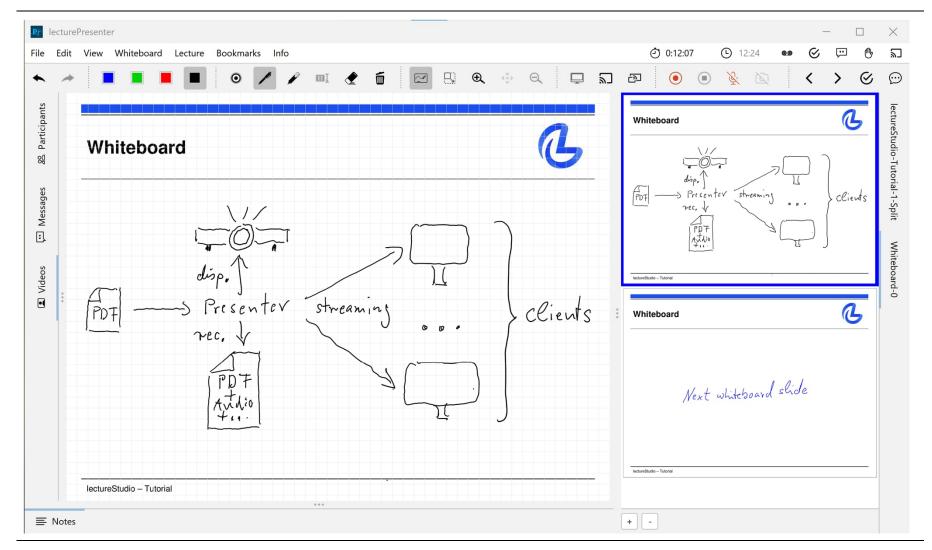
lectureStudio Presenter – User Interface

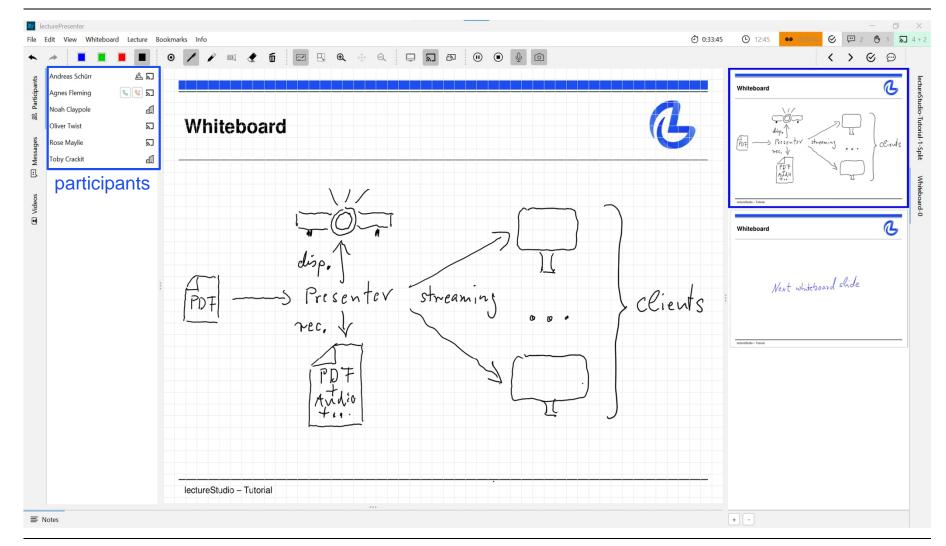config. tool bar

slide preview

presented slide

notes

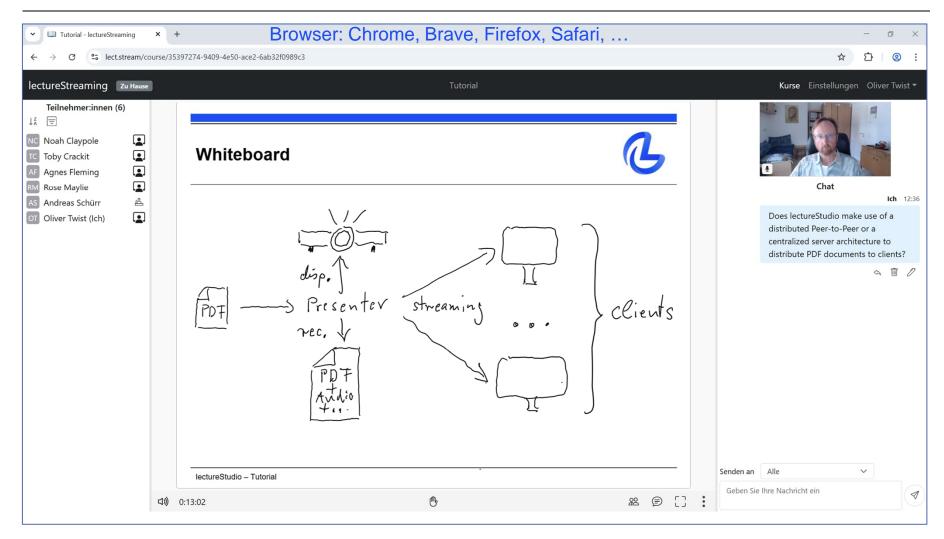# lectureStudio Presenter – Whiteboard
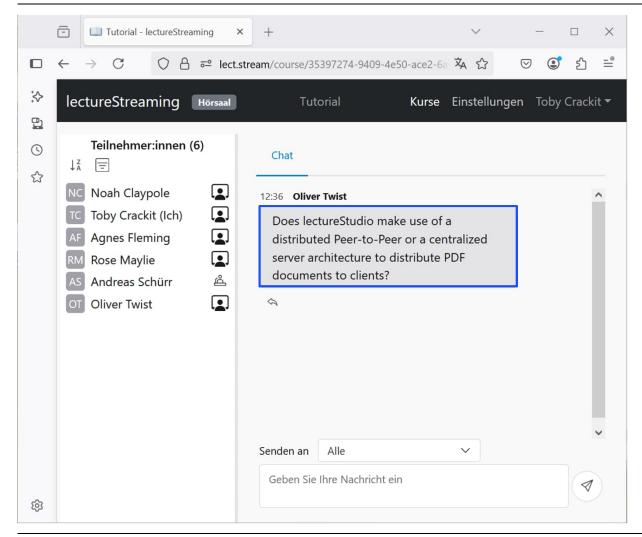
lectureStudio Presenter – Streaming

lectureStudio Client – Streaming User Interface

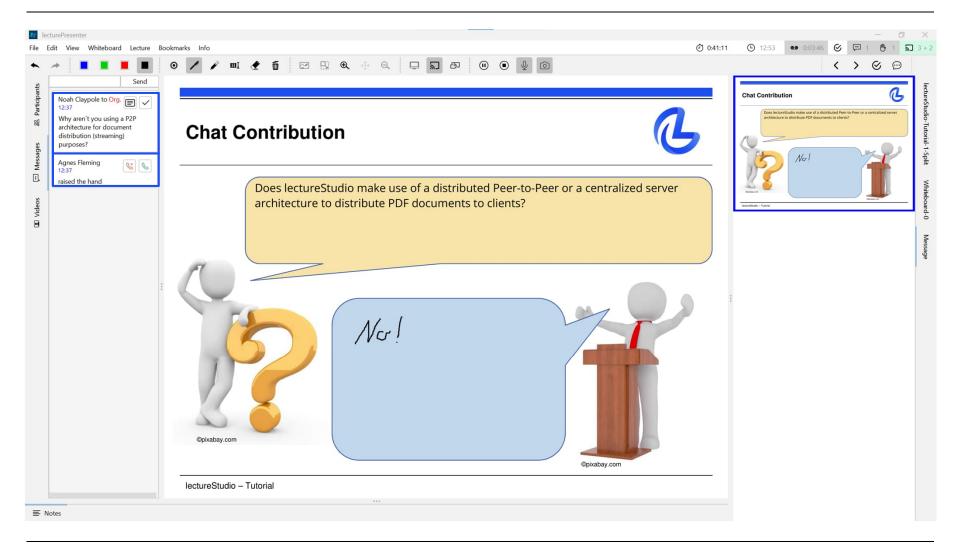# lectureStudio Client – Lecture Hall User Interface

Stream configuration allows (in this case) participants to
- see other participants
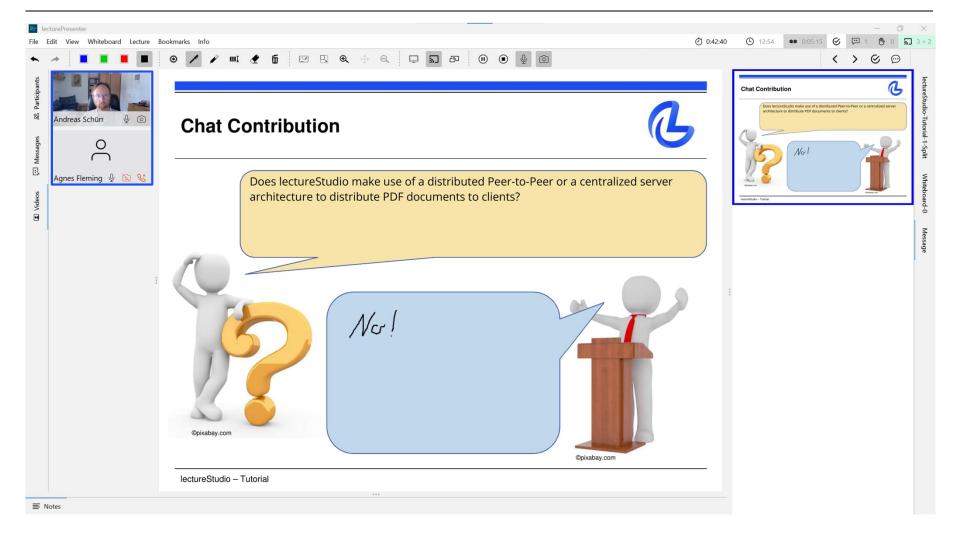- send messages to all other participants
- see all sent messages
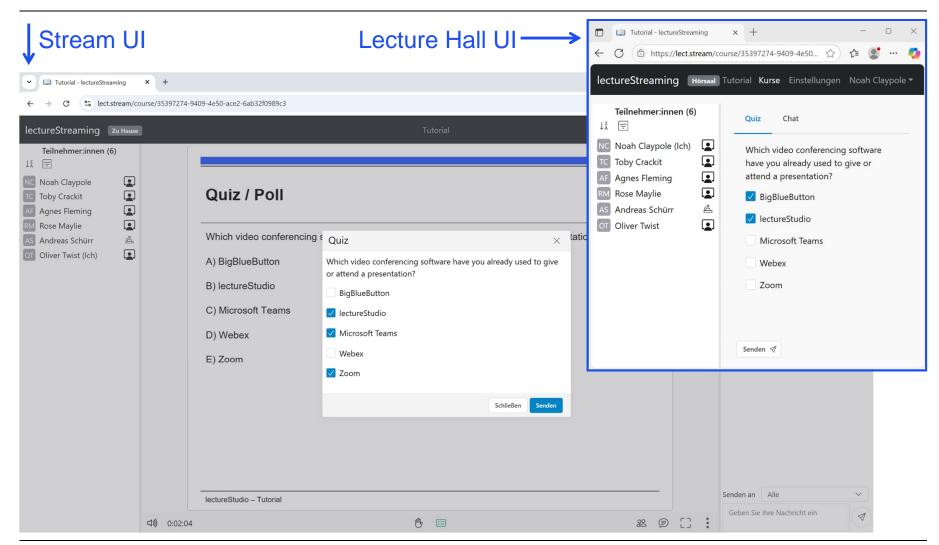- …

lectureStudio Presenter – Message to Slide

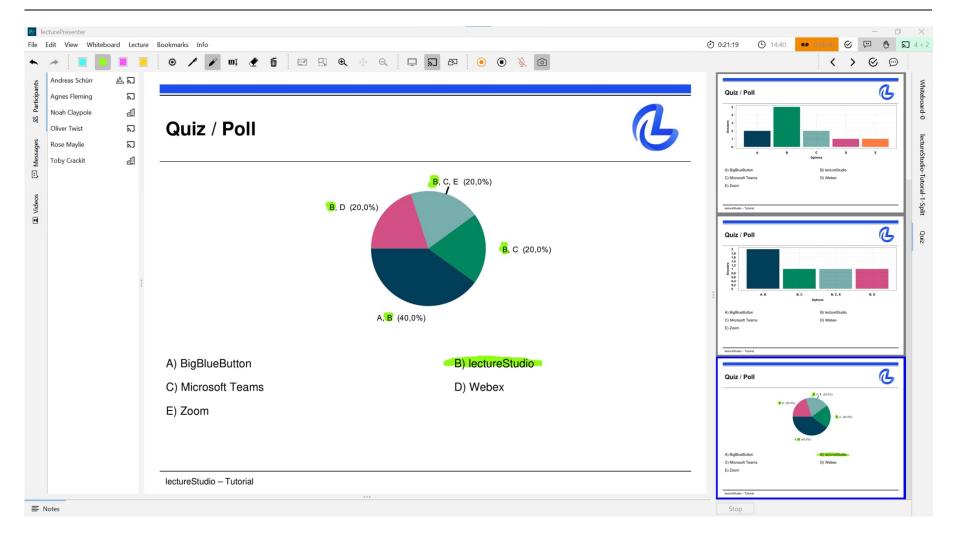# lectureStudio Presenter – Video „Call"

lectureStudio Client – Quiz Functionality
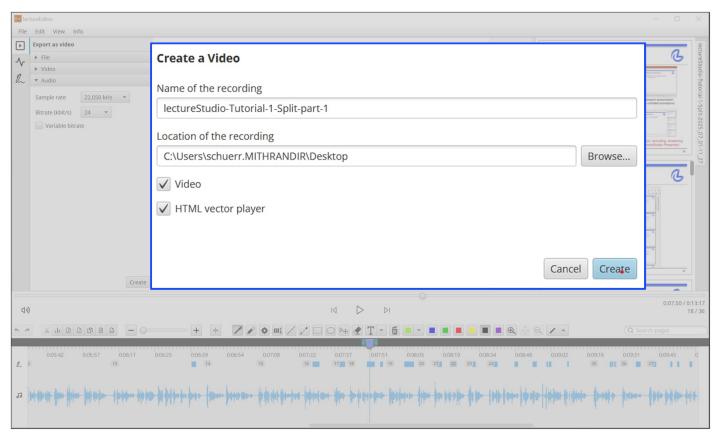
lectureStudio Presenter – Quiz Functionality

lectureStudio Editor – User Interface

video export config.

just "playing" slide

slide preview

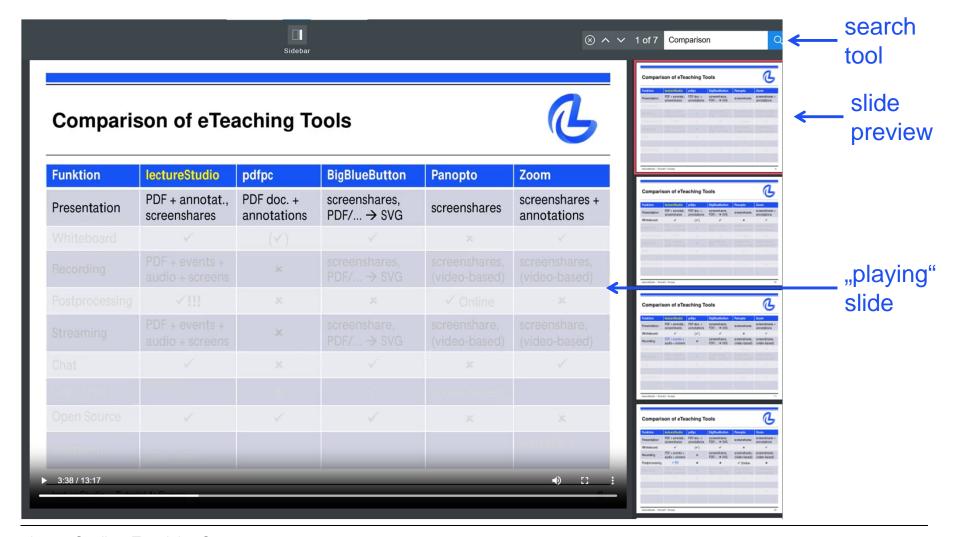toolbar

events

audio

lectureStudio Editor – Video Rendering

- mp4 video:
~ 0,4 MB / sec.
(1024 x 768)
+ html page

- pdf-based:
~ 0,4 MB / sec.
+ player code

- rendering time:
~ 0,15 sec. / sec.

Rendering parameters: video resolution, frame rate, bitrate, audio codec, …

lectureStudio – Player UI (Browser-based)

search tool

slide preview

„playing" slide

lectureStudio Editor – Available Operations

- Deleting parts of a presentation

- Splitting and merging presentations

- Adding and deleting annotations (highlighting, …)

- Moving, adding or deleting slide transition events

- Replacing (sequences of) PDF slides

- Noise reduction and loudness normalization

- Video rendering (mp4, pdf-based vector format)

- PDF export of slides with annotations

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